

WHAT IS CLAIMED IS:

1. A driver system for a disk drive, comprising:

a switching circuit having an upper pair of switching devices and a lower pair of switching devices coupled in an H-bridge arrangement for switching current polarity through an inductive head;

a write drive circuit couple with said switching circuit and having transistor devices for providing current to said switching circuit; and

a pre-drive circuit coupled with said write drive circuit for providing an amplified signal thereto and having a pair of voltage follower devices coupled in a cascade arrangement.

2. The driver system of Claim 1, wherein each of said voltage follower devices comprise a plurality of transistors biased Class AB operable.

3. The driver system of Claim 2, wherein each of said voltage follower devices further comprise a quiescent current reduction devices.

4. The driver system of Claim 1, wherein each of said voltage follower devices comprise a first transistor, a second transistor, a third transistor and a fourth transistor operable in a Class AB biasing arrangement.

5. The driver system of Claim 1 further comprising a reference circuit coupled with said pre-drive circuit for providing a differential ECL data signals to said pre-driver circuit.

5 6. The driver system of Claim 5, wherein said reference circuit comprises:
an output transistor having a base, collector and emitter; and
a current device coupled with said base and collector for providing a compensation current to base.

10 7. The driver system of Claim 5, wherein said reference circuit further comprises a Class AB operable current mirror coupled with said transistor emitter for stabilizing the voltage at increased switching speeds.

15 8. The driver system of Claim 1, wherein each of said write drive circuit transistor devices comprises a pair of transistors each having a base, collector and emitter, wherein said bases and collectors are coupled in parallel and said emitters are coupled to bias resistors for reducing self-heating effects.

20 9. The driver system of Claim 1, wherein said upper pair switching devices are transistors with a first node defined therebetween and each of said lower pair switching

devices comprises a pair of transistors with a second node defined therebetween, wherein said first and second nodes are adapted to drive said inductive head.

- 5 10. The driver system of Claim 9, wherein each of said pairs of transistors have a base and a collector coupled in parallel and having emitters coupled to bias resistors for reducing self-heating effects.

11. A preamplifier for driving an H-bridge switching circuit in a disk drive system, comprising:

a write drive circuit couple with said switching circuit and having transistor devices for providing current to said switching circuit; and

5 a pre-drive circuit coupled with said write drive circuit for providing an amplified signal thereto and having a pair of voltage follower devices coupled in a cascade arrangement.

12. The preamplifier of Claim 11, wherein each of said voltage follower devices
10 comprise a plurality of transistors biased Class AB operable.

13. The preamplifier of Claim 11, wherein each of said voltage follower devices further comprise a quiescent current reduction devices.

15 14. The preamplifier of Claim 11, wherein each of said voltage follower devices comprise a first transistor, a second transistor, a third transistor and a fourth transistor operable in a Class AB biasing arrangement.

20 15. The preamplifier of Claim 11 further comprising a reference circuit coupled with said pre-drive circuit for providing a differential ECL data signals to said pre-driver circuit.

16. The preamplifier of Claim 15, wherein said reference circuit comprises:
an output transistor having a base, collector and emitter; and
a current device coupled with said base and collector for providing a compensation
5 current to base.

17. The preamplifier of Claim 16, wherein said reference circuit further comprises
a Class AB operable current mirror coupled with said transistor emitter for stabilizing the
voltage at increased switching speeds.

18. The preamplifier of Claim 11, wherein each of said write drive circuit
transistor devices comprises a pair of transistors each having a base, collector and emitter,
wherein said bases and collectors are coupled in parallel and said emitters are coupled to bias
resistors for reducing self-heating effects.

19. A method for providing a current for driving an inductive head of a disk drive system responsive to a control signal, comprising:

providing a reference signal responsive to said control signal, said reference signal is provided via an output transistor having a base, collector and emitter; wherein a
5 compensation circuit is coupled with said base and collector for providing a compensation current to said base and a Class AB operable current mirror is coupled with said emitter for stabilizing the voltage;

amplifying said reference signal via transistors operably arranged in a Class AB biasing arrangement; and

10 providing said amplified signal as a current signal to a switching circuit for switching current polarity through said inductive head, wherein said switching circuit has upper pair of switching devices and a lower pair of switching devices coupled in a conventional H-bridge arrangement.